



Ursa Operating Company, LLC

Rockies Region

Valley Farms L

41A-14-06-92

Wellbore #1

Design: Actual

End Of Well Report

22 December, 2014



Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well 41A-14-06-92
Project:	Rockies Region	TVD Reference:	41A-14-06-92 @ 5592.0usft (Capstar 321)
Site:	Valley Farms L	MD Reference:	41A-14-06-92 @ 5592.0usft (Capstar 321)
Well:	41A-14-06-92	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	MasterDB

Project		Rockies Region	
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	Valley Farms L					
Site Position:			Northing:	1,627,813.26 usft	Latitude:	39° 32' 16.142 N
From:	Lat/Long		Easting:	2,399,633.86 usft	Longitude:	107° 37' 44.058 W
Position Uncertainty:	0.0 usft		Slot Radius:	13-3/16 "	Grid Convergence:	-1.34 °

Well		41A-14-06-92, SHL LAT: 39.537699767 LONG: -107.629175711				
Well Position	+N-S	0.0 usft	Northing:	1,627,772.27 usft	Latitude:	39° 32' 15.719 N
	+E-W	0.0 usft	Easting:	2,399,556.57 usft	Longitude:	107° 37' 45.033 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,592.0 usft	Ground Level:	5,577.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/25/2013	9.84	65.79	52,116

Design		Actual			
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	27.6
Vertical Section:	Depth From (TVD) (usft)		+N/-S (usft)	+E/-W (usft)	Direction (°)
	27.6		0.0	0.0	160.64

Survey Program		Date	12/22/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
152.0	7,544.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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Well:	41A-14-06-92	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	MasterDB

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
152.0	1.14	211.55	152.0	1.0	-1.3	-0.8	0.75	0.75	0.00	
180.0	0.97	211.99	180.0	1.3	-1.7	-1.1	0.61	-0.61	1.57	
210.0	0.74	196.60	210.0	1.6	-2.1	-1.3	1.08	-0.77	-51.30	
242.0	0.44	215.28	242.0	1.8	-2.4	-1.4	1.10	-0.94	58.37	
272.0	0.09	275.93	272.0	1.9	-2.5	-1.5	1.35	-1.17	202.17	
302.0	0.05	12.13	302.0	1.9	-2.5	-1.5	0.36	-0.13	320.67	
332.0	0.26	342.55	332.0	1.8	-2.4	-1.5	0.73	0.70	-98.60	
362.0	0.29	22.10	362.0	1.7	-2.3	-1.5	0.63	0.10	131.83	
392.0	0.57	347.12	392.0	1.5	-2.1	-1.5	1.24	0.93	-116.60	
422.0	0.63	21.28	422.0	1.2	-1.8	-1.5	1.19	0.20	113.87	
452.0	0.57	18.89	452.0	0.9	-1.5	-1.4	0.22	-0.20	-7.97	
482.0	0.53	23.86	482.0	0.7	-1.2	-1.3	0.21	-0.13	16.57	
512.0	0.48	46.53	512.0	0.6	-1.0	-1.1	0.68	-0.17	75.57	
542.0	0.31	18.28	542.0	0.5	-0.8	-1.0	0.85	-0.57	-94.17	
572.0	0.44	16.78	572.0	0.3	-0.6	-0.9	0.43	0.43	-5.00	
602.0	0.35	49.87	602.0	0.2	-0.5	-0.8	0.80	-0.30	110.30	
632.0	0.50	45.88	632.0	0.1	-0.3	-0.7	0.51	0.50	-13.30	
662.0	0.26	54.36	662.0	0.0	-0.2	-0.5	0.82	-0.80	28.27	
692.0	0.44	25.75	692.0	-0.1	-0.1	-0.4	0.82	0.60	-95.37	
722.0	0.22	25.05	722.0	-0.2	0.1	-0.3	0.73	-0.73	-2.33	
752.0	0.27	68.92	752.0	-0.3	0.2	-0.3	0.63	0.17	146.23	
782.0	0.22	26.67	782.0	-0.3	0.3	-0.2	0.61	-0.17	-140.83	
812.0	0.18	32.34	812.0	-0.4	0.3	-0.1	0.15	-0.13	18.90	
842.0	0.28	26.18	842.0	-0.4	0.5	-0.1	0.34	0.33	-20.53	
872.0	0.22	58.71	872.0	-0.5	0.5	0.0	0.50	-0.20	108.43	
902.0	0.44	56.33	902.0	-0.6	0.6	0.2	0.73	0.73	-7.93	

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Well:	41A-14-06-92	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	MasterDB

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
932.0	0.40	74.26	932.0	-0.6	0.7	0.4	0.46	-0.13	59.77	
1,037.0	0.37	188.83	1,037.0	-0.3	0.5	0.7	0.62	-0.03	109.11	
1,122.0	1.01	157.67	1,122.0	0.7	-0.5	0.9	0.85	0.75	-36.66	
1,207.0	3.34	142.07	1,206.9	3.8	-3.1	2.7	2.80	2.74	-18.35	
1,293.0	5.67	141.37	1,292.6	10.2	-8.4	6.9	2.71	2.71	-0.81	
1,378.0	7.43	153.72	1,377.1	19.6	-16.6	12.0	2.64	2.07	14.53	
1,464.0	10.02	161.45	1,462.1	32.6	-28.7	16.8	3.30	3.01	8.99	
1,549.0	13.71	164.40	1,545.2	50.1	-45.4	21.9	4.40	4.34	3.47	
1,635.0	16.30	165.67	1,628.3	72.3	-66.9	27.6	3.04	3.01	1.48	
1,720.0	18.46	163.74	1,709.4	97.6	-91.4	34.3	2.63	2.54	-2.27	
1,806.0	20.43	159.69	1,790.5	126.2	-118.6	43.3	2.77	2.29	-4.71	
1,892.0	23.03	158.24	1,870.4	158.0	-148.3	54.8	3.09	3.02	-1.69	
1,977.0	25.88	159.52	1,947.8	193.2	-181.1	67.4	3.41	3.35	1.51	
2,062.0	29.14	159.25	2,023.1	232.5	-217.8	81.3	3.84	3.84	-0.32	
2,147.0	32.12	160.13	2,096.3	275.8	-258.4	96.3	3.55	3.51	1.04	
2,233.0	34.96	159.99	2,167.9	323.3	-303.1	112.5	3.30	3.30	-0.16	
2,319.0	34.85	160.79	2,238.5	372.5	-349.5	129.0	0.55	-0.13	0.93	
2,404.0	34.49	160.34	2,308.4	420.8	-395.1	145.1	0.52	-0.42	-0.53	
2,489.0	34.19	159.96	2,378.6	468.8	-440.2	161.4	0.43	-0.35	-0.45	
2,575.0	33.66	161.50	2,449.9	516.8	-485.5	177.2	1.17	-0.62	1.79	
2,660.0	33.34	160.93	2,520.8	563.7	-529.9	192.3	0.53	-0.38	-0.67	
2,746.0	32.84	160.08	2,592.9	610.6	-574.1	208.0	0.79	-0.58	-0.99	
2,831.0	32.89	159.99	2,664.3	656.7	-617.5	223.7	0.08	0.06	-0.11	
2,916.0	31.90	161.63	2,736.0	702.3	-660.5	238.7	1.56	-1.16	1.93	
3,002.0	31.60	159.25	2,809.2	747.5	-703.1	253.9	1.50	-0.35	-2.77	
3,087.0	32.04	164.22	2,881.4	792.3	-745.7	267.9	3.13	0.52	5.85	
3,172.0	31.42	160.53	2,953.7	837.0	-788.3	281.4	2.40	-0.73	-4.34	

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Survey										
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3,258.0	29.97	159.03	3,027.6	880.9	-829.4	296.6	1.91	-1.69	-1.74	
3,343.0	30.41	161.63	3,101.1	923.6	-869.7	310.9	1.62	0.52	3.06	
3,514.0	29.00	160.75	3,249.6	1,008.3	-949.9	338.3	0.86	-0.82	-0.51	
3,600.0	30.28	160.75	3,324.4	1,050.8	-990.1	352.3	1.49	1.49	0.00	
3,685.0	30.59	161.23	3,397.7	1,093.9	-1,030.8	366.3	0.46	0.36	0.56	
3,771.0	28.94	160.53	3,472.3	1,136.6	-1,071.1	380.3	1.96	-1.92	-0.81	
3,856.0	27.12	157.95	3,547.4	1,176.5	-1,108.5	394.4	2.57	-2.14	-3.04	
3,941.0	26.15	156.31	3,623.3	1,214.6	-1,143.6	409.2	1.43	-1.14	-1.93	
4,026.0	27.20	156.22	3,699.3	1,252.6	-1,178.5	424.6	1.24	1.24	-0.11	
4,113.0	25.70	156.65	3,777.2	1,291.2	-1,214.0	440.1	1.74	-1.72	0.49	
4,197.0	24.48	163.43	3,853.3	1,326.8	-1,247.4	452.2	3.72	-1.45	8.07	
4,283.0	21.23	165.05	3,932.5	1,360.1	-1,279.6	461.3	3.85	-3.78	1.88	
4,368.0	18.06	167.43	4,012.6	1,388.6	-1,307.3	468.2	3.85	-3.73	2.80	
4,453.0	14.85	172.09	4,094.1	1,412.3	-1,330.9	472.6	4.08	-3.78	5.48	
4,539.0	11.16	171.78	4,177.8	1,431.3	-1,350.1	475.3	4.29	-4.29	-0.36	
4,625.0	8.30	175.18	4,262.6	1,445.5	-1,364.5	477.0	3.39	-3.33	3.95	
4,710.0	5.36	179.07	4,347.0	1,455.2	-1,374.6	477.6	3.50	-3.46	4.58	
4,795.0	2.24	179.34	4,431.8	1,460.5	-1,380.2	477.6	3.67	-3.67	0.32	
4,881.0	1.23	213.88	4,517.8	1,462.7	-1,382.7	477.1	1.64	-1.17	40.16	
4,904.1	1.15	206.10	4,540.8	1,463.0	-1,383.1	476.9	0.77	-0.33	-33.70	
41A-14-06-92 TGT										
4,966.0	1.08	181.68	4,602.7	1,464.0	-1,384.3	476.6	0.77	-0.12	-39.44	
5,052.0	1.23	224.16	4,688.7	1,465.1	-1,385.7	475.9	0.99	0.17	49.40	
5,137.0	0.79	199.07	4,773.7	1,466.0	-1,386.9	475.1	0.72	-0.52	-29.52	
5,222.0	0.70	286.78	4,858.7	1,466.2	-1,387.3	474.4	1.22	-0.11	103.19	
5,308.0	0.44	280.32	4,944.7	1,465.7	-1,387.1	473.6	0.31	-0.30	-7.51	
5,393.0	0.22	295.18	5,029.7	1,465.4	-1,387.0	473.1	0.28	-0.26	17.48	

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5,478.0	0.18	131.00	5,114.7	1,465.4	-1,387.0	473.1	0.47	-0.05	-193.15	
5,564.0	0.40	162.81	5,200.7	1,465.8	-1,387.4	473.3	0.31	0.26	36.99	
5,650.0	0.26	170.64	5,286.7	1,466.3	-1,387.9	473.4	0.17	-0.16	9.10	
5,735.0	0.48	117.02	5,371.7	1,466.8	-1,388.2	473.7	0.46	0.26	-63.08	
5,820.0	0.62	123.60	5,456.7	1,467.4	-1,388.6	474.4	0.18	0.16	7.74	
5,906.0	1.06	103.22	5,542.7	1,468.2	-1,389.1	475.6	0.61	0.51	-23.70	
5,991.0	1.14	104.54	5,627.7	1,469.1	-1,389.5	477.2	0.10	0.09	1.55	
6,076.0	0.40	24.52	5,712.7	1,469.3	-1,389.4	478.1	1.34	-0.87	-94.14	
6,162.0	0.70	255.36	5,798.7	1,469.1	-1,389.3	477.7	1.16	0.35	-150.19	
6,248.0	1.71	266.57	5,884.6	1,468.7	-1,389.5	476.0	1.20	1.17	13.03	
6,333.0	1.10	262.53	5,969.6	1,468.2	-1,389.7	473.9	0.73	-0.72	-4.75	
6,419.0	1.67	306.87	6,055.6	1,467.0	-1,389.0	472.1	1.36	0.66	51.56	
6,504.0	1.27	322.47	6,140.6	1,465.0	-1,387.5	470.5	0.66	-0.47	18.35	
6,590.0	0.79	334.29	6,226.5	1,463.5	-1,386.2	469.7	0.61	-0.56	13.74	
6,675.0	1.12	342.46	6,311.5	1,462.1	-1,384.9	469.2	0.42	0.39	9.61	
6,760.0	0.66	342.79	6,396.5	1,460.8	-1,383.7	468.8	0.54	-0.54	0.39	
6,846.0	0.70	12.04	6,482.5	1,459.9	-1,382.7	468.7	0.40	0.05	34.01	
6,931.0	0.66	31.46	6,567.5	1,459.1	-1,381.7	469.1	0.27	-0.05	22.85	
7,017.0	1.14	47.85	6,653.5	1,458.5	-1,380.8	470.0	0.63	0.56	19.06	
7,102.0	1.27	70.18	6,738.5	1,458.1	-1,379.9	471.5	0.57	0.15	26.27	
7,188.0	1.67	94.61	6,824.5	1,458.6	-1,379.6	473.6	0.85	0.47	28.41	
7,273.0	1.54	81.51	6,909.4	1,459.4	-1,379.6	476.0	0.46	-0.15	-15.41	
7,359.0	1.76	60.36	6,995.4	1,459.3	-1,378.7	478.3	0.75	0.26	-24.59	
7,444.0	1.80	50.01	7,080.3	1,458.6	-1,377.2	480.5	0.38	0.05	-12.18	
7,487.0	1.98	53.61	7,123.3	1,458.2	-1,376.4	481.6	0.50	0.42	8.37	
7,544.0	1.98	53.61	7,180.3	1,457.6	-1,375.2	483.2	0.00	0.00	0.00	

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Well:	41A-14-06-92	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	MasterDB

Checked By: _____
 Approved By: _____
 Date: _____



Ursa | OPERATING
COMPANY

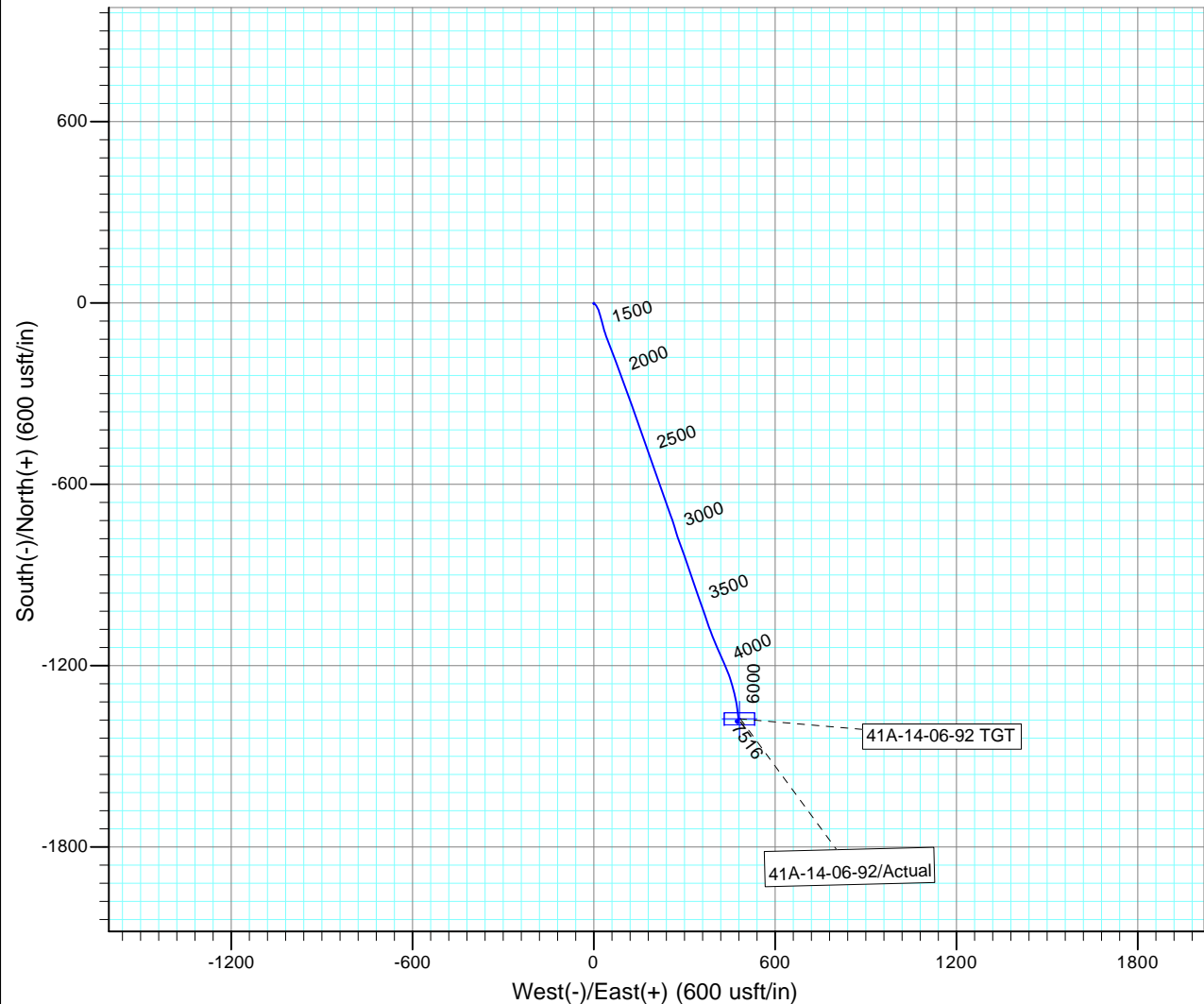
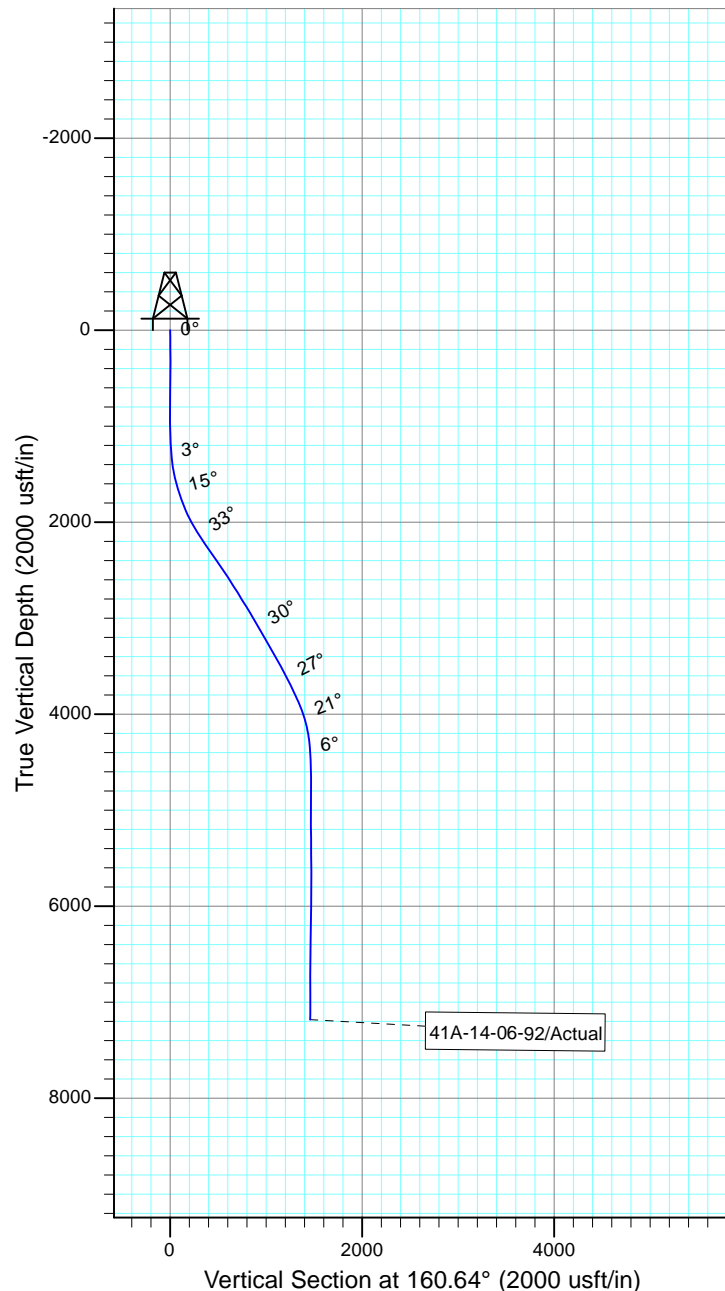
Project: Rockies Region
Site: Valley Farms L
Well: 41A-14-06-92
Wellbore: Wellbore ;
SURVEY: Actual

FINAL SURVEY REPORT



Azimuths to True North
Magnetic North: 9.84°

Magnetic Field
Strength: 52116.4snT
Dip Angle: 65.79°
Date: 11/25/2013
Model: IGRF200510



Design: Actual (41A-14-06-92/Wellbore #1)

Created By: Sarah Webb-Hudson Date: 9:04, December 22 2014
*THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND IS
SUPPORTED BY ACTUAL FIELD DATA.*